

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
29 September 2005 (29.09.2005)

PCT

(10) International Publication Number
WO 2005/089521 A2

(51) International Patent Classification: Not classified

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(21) International Application Number:
PCT/US2005/009478

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(22) International Filing Date: 21 March 2005 (21.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/554,865 19 March 2004 (19.03.2004) US

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

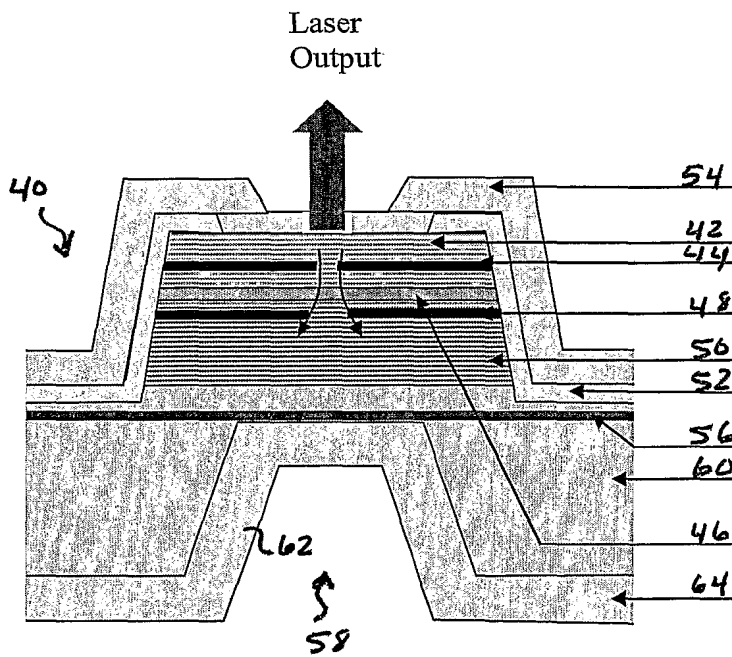
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(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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(54) Title: HIGH POWER VCSELS WITH TRANSVERSE MODE CONTROL



(57) Abstract: A single mode high power laser device such as a VCSEL is formed with two oxide apertures, one on each side of the active region or cavity. The sizes of the apertures and the distances from the apertures to the cavity center are chosen or optimum, near-Gaussian current density distribution. The high power of a VCSEL thus formed is improved still more by good heat removal by either formation of a via through the substrate and gold plating on top and bottom of the VCSEL (including the via) or by lifting the VCSEL structure from the substrate and locating it on a heat sink.

WO 2005/089521 A2



Published:

— without international search report and to be republished
upon receipt of that report

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